The Great Pyramid of Jizeh

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THE PLAN AND OBJECT

Of its Construction

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ANY assertion as to a discovered solution of the plan and object of this huge mass, so venerable, so covered with the mists of primeval time, must be made with very much of reserve. If it has, in its stony strength, been through the long centuries replete with instruction, easily to be read and understood by one understanding the significancy of its symbolization, he who at last solves the riddle of its language must, in self-defense, attribute the cause of solution to anything but himself, or any faculty which he may possess. It is, perhaps, the better part to consider the ability as a temporaty gift for a special purpose. The doing so has at least a merit in the possession of one well-recognized truth, viz., That many more important discoveries are made by persons of very little pretension to learning.

All that the author has in the way of information about this pyramid is contained (1) in an article in the *American Quarterly Church Review* for April, 1869, and (2) in the work of Professor C. Piazzi Smyth, called *Our Inheritance in the Great Pyramid of Jizeh.*

It seems it has been thought, by many, that the pyramid was built to perpetuate a standard of measure, or, rather, standards of measure. The thought was suggested by M. Jomard, of the French expedition; afterward by the Rev. Mr. Taylor, of England, and later by Professor Smyth.

What the full extent of Mr. Taylor's researches led him to conclude in all, is not known; one fact stated by him, however, fastened itself upon the attention, viz., That the hight was to the side of base multiplied by two, as 1 : 3.144, or rudely, as an approximation of the diameter to the circumference of a circle. The work of Professor Smyth is full of the most valuable information as to *accurate* admeasurements of different portions of the pyramid, without and within; as to linear measures, and those of angles. That in his work, which again riveted the attention, was that, upon the ascertainment of the best possible admeasurements, Hight : Side of base $\times$ 2 :: 1 : 3.14159+; the accordance of ratio to that of diameter to circumference being exact to the fifth decimal place, but failing beyond that.

Considerable thought led to some conclusions which were taken as guides in investigation. Professor Smyth was convinced that the mass held treasures of knowledge —not of a lost civilization, but laid up under the dictation of a divine power. For, if such treasures did exist (such seems the running of his thought), it was less marvelous to judge that they were thus given, than that they belonged to that of which every possible vestige but this one had vanished off the face of the earth.

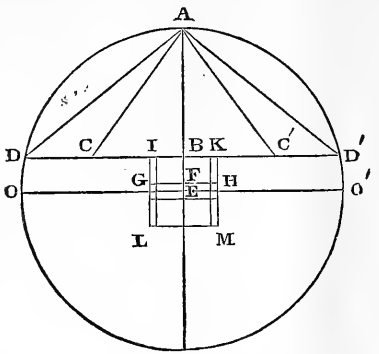
Taking it that it was a work divinely inspired, it seemed (1) that its construction would be characterized by the greatest simplicity, for God's work is very simple; (2) that God would never perpetuate a standard of measure in *numbers* arbitrarily chosen, because by detriment to the pyramid the numbers might be impaired, and the correctness of the standard lost. Therefore, in simplicity, the value of the work should lay in the very elemental princi-

ples of its construction, so that if one could but find the key of its construction, any unit of measure taken in numbers would bring out the proper results.

First, therefore, as to simplicity. If the pyramid was intended to represent earth admeasurements, there would be that about its shape suggestive, in a simple way, of the object of its design. That which would seem to be the most suggestive would be a pyramid, the square of whose base would represent the inscribed upon the great equatorial circle, and whose hight would indicate the pole (one-half the polar diameter). Since it is not so, and is irregular in this connection, it departs from simplicity of design. Still, this should be for as simple an object. What was the object? It was noticed that Professor Smyth makes the Hight : Side of base $\times$ 2 :: 1 : 3.14159+, by the best of the actual measures, agreeing with the relation of diameter to circumference to the fifth decimal place, and there departing. This, he says, is a very close approximation. Here, it seemed, was the first step to the key. The reason of the departure from a simple design of the earth's shape was because the pyramid was, first, a *standard* of measure of the relation of diameter to circumference, in terms of right lines and shapes. If this were so, and the work divine, God never had to approximate to anything, nor did He ever labor under the necessity of raising a system of approximates upon the falsehood of the *equality of ultimate ratios* as given in the Principia. He has, and would give, the exactitude. So let it be taken that the pyramid's first construction was the relation of diameter to circumference. But where the numbers to apply? Mr. John A. Parker gives them in his neglected work upon the quadrature, viz., 6561 : 20612 in integrals, *proved by the severest*

tests. This step gained, does the pyramid apply to earth admeasurements?

ACC′ represents the *meridianal* section.



CC′ length of one side of base.

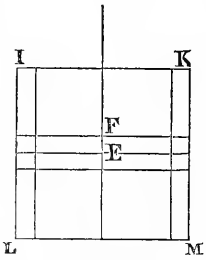
ADD′ represents the *transverse* section.

DD′ being diagonal of base.

Hight AB = 6561.

One-half side of base CB = 5153.

$\sqrt{BC^2 \times 2} = BD = 7287.442486+.$



By thus placing the elements of construction in vertical section, we have combined in one showing all the elements of measure of the pyramid.

Now, it seemed, perhaps, that using the pyramidal relation of diameter to circumference, it might in some way be made in nature to apply to the earth; and there was one way to try it, viz., to put it in the earth or in the top of a great circle, and see how it fitted *in its relations.* If

the earth were a great circle, by putting ADD′ in a circle, so that the circumference would cut in A and D and D′, the application of measurement might be made. It is tried in the diagram. The interior lines at E and F are, as well as all the others, out of drawing, because, if correct, they could not show to the eye the difference which comes out. DB exceeds AB. Therefore to construct a circle cutting both points, prolong AB till AB+BF=DB. Now if DB, in position, were at F, or dropped down that low, one could use AF as a radius, which would cut D. But because it is as it is, a radius AF from F as a center can not cut D. Therefore a further addition is necessary, and you extend the line AF until AE is just the length required for a radius, which, with E as a center, will cut in D and D′. This radius is easily obtained, because DB is a mean proportional between AB and some length x, which gives $\frac{AB+x}{2}$ = radius required. The new radius =

AE=7327.658816+
AB=6561.
DB=7287.442486+

First difference, DB—AB=726.44248

Second difference, AE—DB or AF=40.216330

(Mark, that if the decimal 21.6330 were taken and pointed as done, it would agree in miles with the difference between equatorial and polar diameter, thus: 21.6330
21.6318
00.0012
or within five feet. This is noteworthy because the pyramid seems to run on *differences* in measures applied.)

Now we have to make comparisons with earth admeas-

urements, bearing in mind always that we have been using a perfectly circular standard of measure, not an elliptical one.

A little digression is here necessary, because of an accidentally discovered relation which may be of value. The measure of the earth's diameters was wanted as a standard of reference, and having no first authority on the subject directly at hand, reference was made to a book on earth relations which had been presented by one young friend to another as a Christmas gift, *Figuier's Earth and Sea*. In looking it over, that which was desired was given in *feet*, viz:

Equatorial diameter,	41852865.
Polar diameter,	41738710.
Difference,	114154.

It occurred that if this difference was divided into the longer, the result would be a number of parts for equatorial diameter, of which polar diameter would necessarily contain *one* less. The division was made:

$$41852865 \div 114154 = 366.54750.$$

It was remembered that Mr. John A. Parker, in obtaining, in an elemental way, the exact measure of planetary time, found, as his standard by which to obtain others, the time measure of the earth about the sun to be 366.43555+. The wonderful approximation of the chosen earth period above to this standard seemed to prove a necessary rhythmical relationship. To test it, divide 41852865 by 366.43555+, and the result will be equal to 114216.16

From this take above difference,	114154.
And the result is,	62.16

That is, that, by the permitted use of but 62.16-100 feet in 42.000.000, we have, in earth equatorial extension, an exact counterpart or multiple of its time extension. In other words, earth shape runs in rhythm with time extension, or, the spheroid of the earth's shape has a harmonic relation to the ellipse of the earth's orbit.

Time of Earth,	366.43555
Exact multiple of Earth's diameter	366.43555
41852865 : 366.43555 : : 41738648.84 :	365.43555

Relation of equatorial diameter	366.43555
to polar diameter	365.43555
Difference,	1.
In miles,	21.6318

Now, on the pyramid, the first difference was 726.44248. Divide by 2=363.22124, which, taken as *one* part for time as above, we have taken the difference *twice:* whereas above, with the earth, it was taken but *once.*

Again, ½ of base diagonal, or DB=7287.442486÷2
=3643.721243÷10
=364.3721243

Again, new dia. AE=7327.658816÷2
=3663.829416÷10
=366.3829416

Compare this	366.3829416
With earth and time standard above,	366.43555
Difference,	.05261

in diminution, or minus about 1000 feet in the earth, or 1 hour's time in the year.

The divisions by 2 and by 10 are characteristic of the pyramid. It is seen how the pyramid, by a strictly circular measure, brings out the elements of time and earth measure, without any effort or forced construction, but by the simple application of an original standard of circular measure. Our difference of earth diameters was *one*. Our pyramid measure of difference was taken *twice*. Apply it as we have the earth's

AE=	366.3829416
DB=	364.3721243
Difference,	2.0108173

The harmony is something to admire and wonder at.

Again, difference between AE and DB=40.216330. The shorter diameter 7287.442486 : 40.216330 :: 7905.047128 miles, the shorter diameter of the earth : 43.693. As this is taken twice,

	43.693÷2=21.846
Earth difference,	21.631
Difference,	.215

Larger diameter 7327.658816 : 40.216330 :: 7926.67897 : 43.503.

Divide 43.503 by 2=	21.751
Earth difference,	21.631
Difference,	.120

or within 500 feet or 1000 feet of the exact difference of earth diameters; or, as a standard of time, difference from standard .052, or 1 hour in 1 year.

A very minute difference is observable, requiring an intercalation or change, of some kind, to bring the measures up to an exactness of conformity with earth measures. The use has been made of a pure circular measure, and the resultant differences, as shown, have brought out the elliptical property of the earth, requiring a very slight correction to bring out the exactitude. If an ellipse is required to be drawn cutting in A and D and D′, it can not be done by any foci located in the horizontal diameter O O′. The foci will have to be taken on a line parallel to D D′, and a little nearer to the line D D′ than is O O′. It is thought that the change of relations by this would perhaps bring out the exact correction required. It may be by some use between the whole number 40. and the 40.216330, which would equal

21.6330

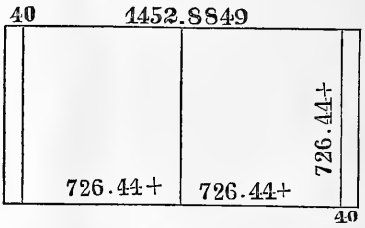
Compare with difference of earth diameters, viz: 21.6318

Difference, .0012

or about 5 feet. One thing, however, seems certain, the *exact* measure of the ellipse of the earth was known, not by experiment, but by the known rhythm that time extension and earth shape were convertible terms.

As to further construction. By completing the circle, a pyramid laid off on the opposite side would give the cube I K L M in the center; the term cube is used because it would be such a solid in a globe. But only one-half of this belongs to our pyramid. A moment's thought will show that this cube would make a chamber one-half as wide as long, and one-half as high as long. Therefore, as our *earth* and *time* measures come in the differences taken

up in this cubic chamber, we would naturally desire to preserve this as an epitome of the earth's *shape* and its *time*. But a perfect cube is expressive of a circle alone, and we want to place our second difference so as to designate an ellipse. Let us, therefore, to bring out this excess as an ellipse, add our second difference *twice*, once on the *I G* side and once on the *K H* side; because we have, in the squares *I* and *K*, taken our first difference *twice*. We have then our cubic chamber, and 40.+ added to each end, which 40. is the difference which will exhibit the elliptical character of the earth's shape and its time.



Reduce the above elements as follows:

Length,	1452.8849		145.28	36.32
Width,	726.44	÷ by 10 =	72.64	÷4=18.16
Difference,*	80.00		8.00	2.00

And the dimensions of the chamber will be:

Length, 36.3
Width, 18.1
Hight, 20.1

Difference between width and hight, 2.

If we compare these measures with the exactest measures of the king's chamber, as given by Piazzi Smyth, we find those dimensions to be:

*To be added to width for hight.

Length, 34 feet 3 inches.*
Width, 17 feet 1 inch.
Hight, 19 feet 1 inch.

Difference between width and hight, 2.

Showing an exact similarity of method in arriving at the results.

Now, this reduction can be used either as an earth or time measure, and is appropriate as the King's chamber. The coffer, an *epitome* of the chamber itself, in its reduced form would become convenient as a standard of capacity and linear measure, etc. The symmetry is this: that the center of the coffer or of the chamber is the cosmic point of rest about which terrestrial and celestial shapes take form and movement in rhythm. As extremes meet, one may go from shape to shape, and from movement to movement, always in harmonic rhythm, to arrive at last at the seat of that wonderful intelligence that causes all, little and great, the material seen and the material unseen, to work in musical accord and in mathematical fitness.

It is to be noted that the admeasurements of the *coffer* seem to be out of rhythm with those of the chamber; but it will be seen, also, on examination, that, with relation to the *measure* of the *room in which it is located*, it, itself, is irregularly placed. This *irregularity* of position with respect to the chamber, is the *peculiarity*, which will lead to the discovery of the *reasons* for the coffer dimensions.

But we have, perhaps, only stepped upon the threshold of the unfolding wisdoms within. Parallels of latitude become significant and full of meaning. Solar and lunar

*Our decimals reduced to twelfths would be 4, 2, 2.

divisions of time are pronounced from the speaking stone in pure, truthful, mathematical lines. Perhaps the royal red of the King's chamber is significant in *color* of the sun, and the white marble of the Queen's chamber of the cold rays of the moon.

A few suggestions may not be inappropriate. If a square be placed upon the meridianal section protracted to a lozenge shape, the side of that square will = 5814.536352. This would seem to designate a horizontal section through the pyramid, the summit of a cubic chamber, with the exactitude of circular measure to compare by. This section would be at a distance from the apex of the pyramid of 3653.731824, thus bringing out for use another number significant of time. Take this distance:

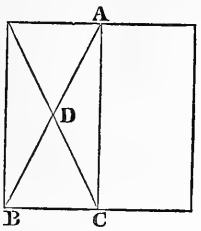
	3653.731824
$\frac{1}{3}$ of $\frac{1}{2}$ below is bottom of K.'s Ch., about	969.089392
	4622.821216
$\frac{1}{3}$ of $\frac{1}{2}$ below is bottom of Q.'s Ch., about	969.089392
	5591.910608
$\frac{1}{3}$ of $\frac{1}{2}$ below is bottom of Pyramid,	969.089392
	6561.000000
$\frac{1}{2}$ of $\frac{1}{2}$ below is bottom of Subterranean,	1453.634088

If we take side of square 5814.536352 and divide it by 8, we have each eighth equal to - 726.817044
Our first difference was - - - 726.442486

Difference, - - - - .374558

Again the wonderful reproduction of numbers is observable, with the addition of the minute differences. It should be stated that the square 5814.536352 is equal to the area of half the lozenge, within another difference exceedingly small. The rectification of all these differences is no doubt to be found in the pyramid, because its construction is elemental and purely geometric. It is probably because the strictly true interpretation of its wonderful speech has not even yet been arrived at. This division of 8 is probably that of which the peculiar divisions of the King's chamber is significant. "Eight floors it, eight roofs it, eight flags the ends, and sixteen" (taken double because the cubic difference is taken twice) "the sides."

The diagram being a representation of the square last spoken of, the angle BAC= 26° 28′, nearly. The use of the lines in the square bringing out this angle of 26° 28′, seems to determine both the location of the King's chamber, and also the passage-ways in the mass. As soon as the location of the chamber and the passage-ways is determined, the structure of the grand gallery and the space between it and the King's chamber will be easily reproduced. It seems probable, by looking at the peculiar shapes of the ends of the grand gallery extensions, that they come from the intersection of parallel lines with another order of lines crossing at peculiar angles in the square for special reasons. It may be that it is caused by the divisions of an equilateral triangle placed in the square.



If an equilateral triangle whose side = the side of the square be placed in the square, its vertex toward A, then if the triangle be divided as to its sides into eight equal parts, and the points of division be joined and protracted to sides of square, it will be found that the vertical angles will equal 60°, while some *on the sides* will equal 120°. In the pyramid the King's chamber proper is capped by several other chambers, all terminating in a roof, the *angle* of which is judged to be 120°. It is noticeable that the excess for ellipticity appears in hight. This excess, however, is originally taken in horizontal extension along the equatorial diameter. Its position is, therefore, at right angles to that one in which the excess originates. It may be that the peculiar *angle of the roof* serves to indicate whence the hight was taken, and may serve, possibly, to explain the meaning of the other chambers, or the hight taken between the top of the King's chamber and the roof.

These, however, are mere suggestions of thought not yet tested. But, truly and verily, the *Ancient of days* puts the achievements of modern science to the blush. The days of *truth revived* seem to be coming upon the inhabitants of the earth—happier and better days. Perhaps it may not be long before the light of new and exact knowledge will be shed abroad in the place of approximations, both in science and theology.

There is, about the revelations made by the great pyramids that which is almost startling in its effect upon the imagination. When one considers that buried in the pyramid is the *sacred cubit* of the Hebrews; that *four* times the *English quarter* is the capacity of the coffer; that the *English inch* and *English foot* measure runs in such ad-

mirable rhythm with *time* and pyramid measures, it is not by any means extravagant to judge that a link of connection is found between the Anglo-Saxon and the Hebrew race. The thought once entertained finds no obstacle of an insuperable kind in the way of its acceptation. The captivity of the ten tribes was located almost in the direct pathway of the emigration from the East into Europe and the north of Europe. It was placed in the tide ever impelling on to the *north*. Strong and particular emphasis is laid upon the *north quarter* as that from whence the *lost* shall be gathered to their brethren.

"Go out and proclaim these words toward the north, and say, Return, thou back-sliding Israel."

"In those days the house of Judah shall walk with the house of Israel, and they shall come together out of the land of the north to the land that I have given for an inheritance unto your fathers."

"Behold I will bring them from the north country."

"Which led the seed of the house of Israel out of the north country."

"I will bring the blind by a way that they know not; I will lead them in paths that they have not known."

"Ho, ho, come forth, and flee from the land of the north."

"Israel and Judah shall be brought together and made one nation."

Were the blind eyes opened, it is quite possible that here in this *New World* of ours, one would suddenly come to the realization that he was dwelling in the midst of the teeming multitudes *of Israel;* terminating their emigration in a land long promised, long reserved; under government of a commonwealth restored; free from every taint of *caste* condition, or of kingly rule.

יהוה יראה

Appendix.

1. In construction (page 7) it would be proper, if the number 40 was needed, to make three differences; of which 2d might be 40 and the 3d .216330.
2. The exact side of square (page 14) is thought to be 5772.3806. This—5814.536352=40. which may be of value in construction.
3. If circumference (page 6) was that of an ellipse, a perpendicular dropped from 45° might touch C; if so, the relation would be of importance. If as it is it lacks 40. it may be that this want or difference is expressed in construction.
4. If base of pyramid was made to rest upon the parallel of 45°, the hight thrown inward in the circle, it might show the reason of the elevation in the pyramid of the King's chamber.
5. If *one* side of the square (page 15) was diminished by 40 or BC by 20, then, the hight AC remaining the same, the angles made by the transverse lines would be very slightly lessened.

An apology is due the publishers for handing them a manuscript containing errors, which escaped correction. 366.54750, page 8, should read 366.6351. On page 10 43.693 should read 43.624, giving a difference of .181, instead of .215. In relation to the King's chamber, too, the cube I K L M should not only be divided by 2, but this again by 2, or, the original should suffer a division by 4 to make the chamber. The original cube would contain 8 cubes, each equal to that of the 1st difference: the King's chamber contains 2. The addition of the 80 must be made on the width or hight instead of on the length.